

What is claimed is:

1. A method for separating fibers from a flow of gases and fibers comprising:

intercepting the flow of gases and fibers with a rotating drum, the drum having

5 a plurality of perforations formed on an outer circumferential wall;

establishing a zone of reduced pressure inside the drum to cause the flow of gases to pass through the perforations, thereby separating the fibers from the flow of gases, and depositing the fibers on the outer circumferential wall;

venting the flow of gases from the zone of reduced pressure;

10 establishing a zone of increased pressure inside the drum;

rotating the drum to force the deposited fibers away from the outer circumferential wall of the drum.

2. The method defined in Claim 1 further comprising the step of:

15 establishing barriers to a peripheral flow of air around the drum with vanes.

3. The method defined in Claim 1 wherein a plurality of the vanes are formed on the drum, the vanes extending in a direction transverse to the circumferential wall.

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4. The method defined in Claim 3 wherein the drum is positioned within a outer casing, and at least one pair of opposed vanes forms a seal with the outer casing.

25 5. The method defined in Claim 4 wherein the seal formed by the vanes separates the zone of reduced pressure from the zone of increased pressure.

6. The method defined in Claim 4 wherein the vanes are in contact with the outer casing.

7. The method defined in Claim 1 wherein the deposited fibers are formed into mini-blankets.

5 8. The method defined in Claim 7 further comprising the step of:
transporting the mini-blankets away from the drum to a processing station.

9. The method defined in Claim 1 wherein a labyrinth seal is formed to seal the zone of reduced pressure from areas at higher pressures.

10 10. An apparatus for separating fibers from a gas flow comprising:
a fiberizer for forming downwardly moving veils of fibrous mineral material and gas flow;
a gathering member adapted to receive the formed fibrous mineral material and the gas flow;
15 a duct positioned between the gathering member and a separator for conveying the formed fibrous material and the gas flow to the separator;
a rotatable drum within the separator, the drum being adapted to receive the fibrous mineral material on a perforated outer circumferential wall of the drum, with the outer circumferential wall being permeable to the gas flow; and
20 a mechanism for creating a zone of reduced pressure within an inner chamber of the separator for drawing the gas flow towards the drum.

25 11. The apparatus defined in Claim 10 wherein the outer circumferential wall of the drum is divided into a plurality of compartments by a plurality of vanes, each of the vanes extending in a transverse direction to the circumferential wall of the drum.

30 12. The apparatus defined in Claim 11 wherein at least two vanes positioned on opposite sides of the drum are in contact with walls of the separator thereby sealing the zone of reduced pressure.

13. The apparatus defined in Claim 12 wherein the received fibrous material is retained on the drum while the fibrous material is in contact with the zone of reduced pressure, and is removed from the drum after the fibrous material is moved to 5 be outside of the influence of the zone of reduced pressure.

14. The apparatus defined in Claim 13 further comprising a labyrinth seal.

15. The apparatus defined in Claim 10 further comprising a header 10 apparatus.

16. The apparatus defined in Claim 15 wherein the header apparatus is connected to a plurality of separators.

15 17. The apparatus defined in Claim 15 wherein the header apparatus is connected to a plurality of fiberizers.

18. The apparatus defined in Claim 10 wherein components of the apparatus are adapted to operate at temperatures up to and exceeding about 500 degrees 20 Fahrenheit.